

intensive care units in England. *Br Med J* 1989;299:1193-7. (11 November.)

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SIR,—In his leading article¹ commenting on the paper by Dr Sheila M Gore and her colleagues² Mr J Wallwork asks two important questions. Firstly, why was it that in those patients in whom the diagnosis of brain stem death was a possibility the diagnosis had not been made by the time they died? Secondly, relatives of 218 patients were asked if organs might be removed for transplantation and refused in 66 cases; why should consent be refused? Part of the answer may lie in the inadequate provision of intensive care services in the United Kingdom.

Last year the Association of Anaesthetists of Great Britain and Ireland published the results of the most comprehensive survey of intensive care units in the United Kingdom yet undertaken.³ Two hundred and ninety general intensive care units were identified in 227 districts and health boards in the United Kingdom. Replies were received from 183 (80%) districts and boards and 222 (77%) units. Fifteen units (7% of 214) have fewer than four beds; 47 (22%) have fewer than 200 admissions a year, and 64 (30%) have a bed occupancy of 60% or less. Sixty eight (32%) units have less than one nurse per patient.

As far as consultant medical cover is concerned, 198 (93%) units have sessions for this. Sixteen (7%) have no sessions and in 25 (12%) only two sessions per week of consultant time are available for intensive care. In three quarters of units emergency consultant cover is provided by an anaesthetist with theatre responsibilities. In half of the units the consultant anaesthetist providing daytime and emergency cover changes every day. Only one third of units have a doctor in training who does not have clinical commitments outside the unit.

The association has drawn several conclusions from this survey and made certain recommendations. Firstly, intensive care services need rationalising. A unit of fewer than four beds, fewer than 200 admissions a year, or a bed occupancy of less than 60% is not economic. Larger units at district, subregional, or regional level, depending on workload and geography, are necessary to maintain a high standard of care. High dependency care is more appropriate in smaller hospitals. Patients who are more dependent (and this includes potential organ donors) should be stabilised locally and then transferred to the larger intensive care unit. Secondly, a high standard of intensive care requires a nurse:patient ratio of 1:1.

Finally, the greater part of administration and immediate bedside patient care in intensive care units in the United Kingdom is undertaken by anaesthetists. A busy district unit requires a consultant sessional allocation of 10 notional half days a week plus five notional half days for work at night and weekends. Cover by trainee medical staff should be provided by trainees who do not have simultaneous clinical responsibilities elsewhere.

If these recommendations were implemented they would go a long way towards ensuring that the maximum number of organs is provided from what now appears to be quite a small pool. Beds would be used more efficiently; more medical and nursing staff would be devoted to the care of the critically ill, including potential organ donors; policies for the provision of organs from within a unit could be drawn up and implemented; and staff could be trained and become expert in the difficult task of asking relatives for their agreement to remove organs for transplantation.

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Non-melanoma skin cancer

SIR,—The review of non-melanoma skin cancer¹ describes the Maryborough study of solar keratoses,² which showed a rate of spontaneous remission of 25%. We have recently noticed a similar phenomenon with basal cell carcinomas.

Owing to a machine breakdown a waiting list for non-urgent superficial radiotherapy developed at our hospital. When patients attended for treatment after an average wait of 16 weeks after cytological diagnosis four out of 15 lesions in 12 patients (27%) had completely disappeared. Cytological examination (skin scraping) had been performed in all but one patient. None of the lesions had been formally curetted. After a further six months' follow up none of the lesions had recurred.

Perhaps the physical insult of the scrape is sufficient to upset the balance between host defences and malignant growth, or perhaps (as patients sometimes tell us) basal cell carcinomas too have potential for spontaneous regression.

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Hoarse cry with fatal outcome

SIR,—The 9 month old infant with a piece of glass lodged in his larynx reported on by Mr D E Phillips and colleagues became hoarse and dyspnoeic and had an audible wheeze.¹ We have recently seen a 9 month old infant who also had a laryngeal foreign body and who was completely symptom free. This child had a sudden choking and coughing attack while playing on the floor at home. Afterwards she was agitated and cried, and was turned upside down by one of her parents, who also patted her on the back. The child regurgitated some food and brown coloured liquid but continued to cough and to gasp for breath. After about five minutes she settled down but refused to drink. She was then taken to the general practitioner, who reported hearing stridor and referred her to the ear, nose, and throat department.

On arrival in hospital the child was not distressed in any way. No stridor, wheeze, or any sign of an upper respiratory tract obstruction was observed. A chest x film ray was reported as normal. The following morning a bronchoscopy under general anaesthesia was arranged, but after a gaseous induction the anaesthetist was unable to pass an endotracheal tube. Closer examination of the larynx showed a narrow object wedged antero-posteriorly at or just below the level of the vocal cords producing a "double barrelled" appearance. The object was removed with bronchoscopy forceps and was found to be a length of flat wooden lollipop stick about 3×1 cm. The child made an uneventful recovery. With the benefit of hindsight the lollipop stick could be seen in the radiograph.

Inert foreign bodies may be well tolerated in the trachea after the initial coughing episode. They do not give rise to lateralising signs and may not necessarily produce stridor, a hoarse voice, or signs of obstruction. They also may not be visible in a chest x ray film. Any child with a history of a sudden coughing or choking attack in circum-

stances in which a foreign body may have been inhaled should always be examined by endoscopy, regardless of whether the child has become free of symptoms or signs or has an apparently normal chest radiograph.

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- 1 Phillips DE, Childs D, Walsh S. Hoarse cry with fatal outcome. *Br Med J* 1989;299:847. (30 September.)

Mumps meningitis after mumps, measles, and rubella vaccination

SIR,—Like Dr Suzanne Crowley and colleagues¹ commenting on the letter about mumps, measles, and rubella vaccination and encephalitis,² we also hesitated before reporting a girl aged 3 years and 2 months who developed proved mumps meningitis 21 days after being given mumps, measles, and rubella immunisation (Pluserix).³ Although the illness was uncomfortable, it was mild and resolved completely. The mumps virus isolated from her cerebrospinal fluid was identical with the Urabe vaccine strain used in her immunisation.⁴ There would therefore seem little doubt of a causal relation between the immunisation and this mild attack of mumps meningitis.

Our intention is not to overemphasise adverse effects of what seems to be a highly effective vaccine with a good uptake in the United Kingdom. None the less we believe that health care workers responsible for immunisation must be aware of this complication, which may not be uncommon if the present rate of vaccine uptake continues. It will be important, however, to highlight that a potentially dangerous encephalitis related to vaccine as described by Dr Crowley and colleagues⁵ will be rare compared with the relatively common but mild mumps meningitis associated with vaccine. We believe that health care workers should counsel parents presenting their children for measles, mumps, and rubella immunisation and explain that meningitis associated with vaccine does sometimes occur but is less common and less severe than the meningitis associated with natural mumps. In two large Scandinavian studies of patients with natural mumps infection, with or without clinical evidence of meningitis or central nervous system dysfunction, between 54% and 65% were confirmed as having meningitis.^{6,7} Since mumps vaccination was introduced in Finland in 1982 the number of admissions for meningoencephalitis to a large children's hospital in Helsinki has dropped dramatically.⁸

Despite the causal relation between measles, mumps, and rubella immunisation and the occasional mild mumps meningitis associated with vaccine we disagree with Professor von Mühlen-dahl, who thinks that because of the extreme rarity of this complication, parents need not be told about the risk before deciding on vaccination.⁹ On the contrary, we would support strongly the recommendation that parents should be told of the possibility of symptoms associated with vaccination at the same time as the overall highly beneficial protection afforded by measles, mumps, and rubella immunisation is emphasised.¹⁰

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“Operation Cataract”

SIR,—The fact that 17% of patients have waited for cataract surgery for over a year¹ is disheartening given the ages of patients affected. I am sure that the lists would be considerably reduced were outpatient cataract surgery the norm rather than the exception. In the eye unit here during the past full year, 1987-8, we carried out 1158 cataract procedures, which were spread among four surgeons. Of this number over half (660) were done as outpatient procedures. Among the remainder only a few patients were admitted on medical grounds. The largest number were admitted because of sociological factors such as living alone or having a long distance to travel—not uncommon of course in Canada. Virtually all these patients were operated on under local anaesthetic with neuroleptic agents, and the complication rate in outpatients compared with inpatients did not differ greatly.

At present we have waiting lists of around six months, although, of course, this varies somewhat from surgeon to surgeon.

The hospital is now mooring acquiring an old nurses' home to use for overnight stay for patients having outpatient surgery; it would be staffed by a single registered nurse. This would be at some cost to the patient, but it would be minimal; as a number of patients have already elected to stay at their own expense at local hotels and motels I think that it will be well accepted.

Most of the inpatients operated on during the past five years have returned home the following morning, and again this has not led to any great increase in complications. The idea of patients remaining longer than one day, much less being operated on under general anaesthetic, is by and large anathema in North America and certainly helps to keep the waiting list down and the bed utilisation up.

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- Thomas HF, Darvell RHJ, Hicks C. “Operation Cataract”: a means of reducing waiting lists for cataract operations. *Br Med J* 1989;299:961-3. (14 October.)

In spectacular retreat

SIR,—In Bernard Dixon's opinion piece leprosy is in spectacular retreat.¹ I suggest that he may be misleading general medical readers and the general public with his optimism.

The disease is hardly beating a retreat in the face of modern pharmacology if only 10% of the world's known patients with active leprosy are receiving

the proper multidrug treatment recommended by the World Health Organisation since 1982.

We should be cautious before assuming that the polymerase chain reaction for detecting *Mycobacterium leprae* DNA is the final answer to the problem of detecting leprosy bacilli in people. Hartskeerl *et al* detected single numbers of bacilli in suspensions of purified leprosy bacilli from armadillos,² but when they tested liver tissue from armadillos the sensitivity dropped to 1000 bacilli. Good histopathological techniques can detect bacilli in biopsy specimens from patients with leprosy at densities of 500 per ml of tissue. The ability of the polymerase chain reaction to identify *M leprae* DNA in histological sections of biopsy specimens that contain few or apparently no bacilli—that is, paucibacillary—is currently being investigated.

I agree that the polymerase chain reaction will be a useful epidemiological tool, but for individual cases we need controlled investigation to be certain that a positive signal from the polymerase chain reaction indicates infection with *M leprae*. False positive results are known in other polymerase chain reaction systems, and in countries where leprosy is endemic technical stringency may not always be optimal. Paucibacillary leprosy is often difficult to diagnose even with combined clinical and histological findings. It may transpire that detection of *M leprae* DNA by the polymerase chain reaction is comparatively insensitive and thus contributes little to the management of individual cases, or that it is so sensitive that positive signals are detected in people who seem clinically normal or have lesions inconsistent with leprosy. I doubt that this new technology will supersede classic methods of diagnosis; we await statistical evaluation of its sensitivity and specificity in a clinical context.

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Sweeping away superstition

SIR,—Textbooks on leprosy¹⁻³ and even general medical textbooks⁴⁻⁶ no longer consider skin to skin transmission important in the transmission of leprosy. Instead there is ample evidence that the main exit of *Mycobacterium leprae* is in the nasal discharge⁷ and that the portal of entry is probably the upper respiratory tract.

The scientific evidence against skin to skin transmission comes from microbiological, histological, and experimental studies. Bacteria in general cannot penetrate intact skin, and *M leprae* has no distinctive features that would enable it to do so⁸; histological studies have not shown *M leprae* on intact skin,⁹ and experimental transmission of leprosy even to immunologically compromised nude mice does not occur when bacilli are smeared on to intact or abraded skin.¹⁰ A necessary condition for skin transmission seems to be direct inoculation—for example, into the foot pads of mice¹¹ or, rarely, after tattooing in humans.¹²

Dr Coleman's advice to Princess Diana of wearing gloves to prevent transmission of leprosy may have been well meant,¹³ but it cannot be regarded as a balanced scientific opinion derived from critical and informed assessment of evidence, particularly when he invokes an authority that cited no evidence for its statement.¹⁴

Perhaps we could also reiterate the widely held feeling that the word “leper” should not be used. To describe patients with leprosy as lepers only

perpetuates the stigmatisation associated with this disease.

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Detection of deep venous thrombosis

SIR,—In response to the letter by Mr A F da Silva and colleagues¹ the point that we wished to emphasise in our article was the significance of a negative C reactive protein concentration.

It is well recognised that there may be many reasons for a raised C reactive protein concentration,^{2,3} and for this reason a positive result is too insensitive to predict deep venous thrombosis after surgery. Even if daily monitoring is done post-operatively there may be insults other than thrombosis responsible for an unexpected increase. Contrast phlebography will still be necessary to confirm the diagnosis. In our experience, however, if the C reactive protein concentration is <10 mg/l then deep venous thrombosis is not a concern. It is the negative predictive value of the C reactive protein concentration that is significant.

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SIR,—The observations of Dr E A Thomas and others on the use of liquid crystal thermography in detecting deep venous thrombosis¹ are at variance with those of previous investigators^{2,3} and with ours in a similar investigation just completed. As Dr Thomas and others did not describe exclusion criteria for the use of thermography presumably none was applied, so that many patients with exothermic lesions of the legs—for example, local sepsis or trauma or chronic deep venous insufficiency⁴—were included in their study, giving a high number of false positive thermograms.

Of more concern are the false negative thermo-